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Question Paper Code: 99D23

B.E./B.Tech. DEGREE EXAMINATION, NOV 2022

Elective

Biotechnology

19UBT923- ENVIRONMENTAL BIOTECHNOLOGY

(Regulations 2019)

Duration: Three hours

Maximum: 100 Marks

Answer All Questions

PART A - (10x 2 = 20 Marks)

1. Identify the materials that can be used as bio sorbents. CO1- U
2. Define eutrophication. CO1- U
3. Analyze the causes of water pollution CO3- Ana
4. Expand BOD and Is BOD related to pollution? Justify your answer. CO3- Ana
5. Define Lactose intolerance condition. CO1- U
6. Differentiate between Complex media and Defined media. CO1- U
7. Define the term biocatalyst. CO1- U
8. Differentiate isolated and whole enzyme. CO1- U
9. Kasugamycin is an amino glycoside antibiotic. Analyze its role as a bio pesticide. CO3- Ana
10. Define VAM-POT method. CO1- U

PART – B (5 x 16= 80Marks)

11. (a) Masha is an environmental engineer. She has identified that heavy metals are the major cause for polluting all the natural resources. You as a junior engineer, help Masha in writing a report analyzing the sources for heavy metals causing pollution and the corresponding solution. CO3- Ana (16)

Or

- (b) Indians depend mainly on agriculture for their livelihood. In spite of this certain agricultural practice also pollutes the environment. Analyze the cause and effects of it on environment and in living organisms, also predict the measures that has to be taken to reduce the toxicity in the environment. CO3- Ana (16)
12. (a) Microbes in human welfare includes various applications in household Industries, active biochemical etc. By Analyzing various details and explanation, Give a detailed write up. CO2- App (16)
- Or
- (b) The Chairman of a Designing company needs a design of Sewage treatment plant to implement at the organization. Help him out by elucidating with the diagrams, flowcharts and proper explanations. CO2- App (16)
13. (a) Analyze the several safer methods to handle Radioactive waste in Nuclear power plants and explain in detail with proper illustrations. CO3- Ana (16)
- Or
- (b) Analyze the measures that can be taken in a textile industry in order to manage the wastes generated by them. CO3- Ana (16)
14. (a) Discuss in detail the role of enzyme as biocatalyst and analyze its applications. CO1- U (16)
- Or
- (b) Explain in detail the basic reaction mechanism and compare isolated enzyme system and whole enzyme system. CO1- U (16)
15. (a) Analyze the various physical and chemical control mechanisms of microorganisms and also make a list of at least 5 microorganisms, its causative diseases. CO3- Ana (16)
- Or
- (b) “A newly released techno-economic analysis finds that India is potentially a global leader in Ethanol production”. Explain its fermentative production and product recovery. CO3- Ana (16)